

REMARKS

This Response is submitted in reply to the Office Action mailed on January 30, 2006. Claims 1, 4 to 22, 30 to 35, and 37 to 49 are pending in the application. Claim 37 has been amended. No new matter is added by way of this amendment.

A Petition for a One Month Extension of Time to file this Response is submitted herewith. Please charge deposit account number 02-1818 for any fees which are due and owing in connection with this Response and Extension of Time.

The Office Action rejected Claims 1, 4 to 22, 30 to 35 and 37 to 49 under 103(a) as being obvious over U.S. Patent No. 5,290,343 to Morita et al. ("Morita").

Independent Claim 1 is generally directed to an electro-kinetic air transporter-conditioner which includes, among other elements, a first array of electrodes having at least two first electrodes and a cleaning mechanism for cleaning an electrode in the first array of electrodes. The electro-kinetic air transporter-conditioner further includes a second array of electrodes having at least three second electrodes electrically connected to one another, located downstream from the first array, the at least three second electrodes including two outermost second electrodes and one or more inner second electrode located between the outermost second electrodes, wherein each inner second electrode in the second array is a greater distance downstream from the first array than the outermost second electrodes in the second array.

On pages 2 to 3 of the Office Action, the Office Action states that Morita discloses an electrostatic precipitator comprising an air inlet, an air outlet, discharge electrodes, and collector electrodes. The Office Action further states that Morita discloses the collector electrodes being connected to a handle positioned on the side or the bottom of the device, which allows the collector electrodes to be removed for cleaning. The Office Action asserts that, while Morita does not teach a handle connected to the collector electrodes on the top surface of the device, such a configuration for the handle would have been an obvious design choice at the time of the invention. In addition, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Morita to include collector electrodes that are hollow and u-shaped.

As a primary matter, Applicants respectfully submit that, although the Office Action takes the position that it would have been obvious to modify Morita to include (1) a handle

connected to the collector electrodes on the top surface of the device and (2) hollow, u-shaped collector electrodes, these limitations do not appear in any of the claims of the present application.

Moreover, regardless of whether it would have been obvious to modify Morita in the manner proposed by the Office Action, the resulting device would not achieve the electro-kinetic air transporter-conditioner of independent Claim 1. Unlike the electro-kinetic air transporter-conditioner of independent Claim 1, Morita does not include a second array of electrodes having at least three second electrodes electrically connected to one another, located downstream from the first array, the at least three second electrodes including two outermost second electrodes and one or more inner second electrode located between the outermost second electrodes, wherein each inner second electrode in the second array is a greater distance downstream from the first array than the outermost second electrodes in the second array.

As indicated in the present application, and as previously discussed in Applicants' Response to Office Action dated November 7, 2005, the non-equidistant configuration (i.e., each inner second electrode of the second array is a greater distance downstream from the first array than the outermost second electrodes of the second array) equalizes the electrical fields created at the tip of each electrode within the second array. Reducing the electrical field at the innermost electrodes reduces the amount of ozone generated by the device (See Abstract). Indeed, Morita does not teach, disclose, or suggest such a configuration for the discharge electrodes and the collector electrodes.

Accordingly, for at least this reason, Applicants respectfully submit that independent Claim 1 and the claims depending therefrom are patentably distinguished over Morita.

Independent Claims 8, 14, 15, 21, 44, 46, and 48, and amended independent Claim 37 each include certain similar elements to independent Claim 1. For reasons similar to those discussed above with respect to independent Claim 1, independent Claims 8, 14, 15, 21, 44, 46, and 48, amended independent Claim 37, and the claims depending therefrom are each patentably distinguished over Morita.

The Office Action rejected Claims 1, 4 to 22, 30 to 35 and 37 to 49 under 103(a) as being obvious over U.S. Patent No. 6,635,105 to Ahlborn et al. ("Ahlborn").

Ahlborn discloses an electrostatic precipitator which includes a tube, wherein the internal wall of the tube forms an elongated cylindrical collector electrode. An emitter electrode extends in a lengthwise direction and is disposed concentrically within the tube.

The Office Action states that Ahlborn differs from the presently claimed invention in that the reference does not teach a plurality of electrodes arranged in an array (See Office Action, page 4). The Office Action concludes that it would have been obvious to one of ordinary skill in the art to include a plurality of emitter electrodes arranged in an array and a plurality of collectors electrodes arranged in an array to enhance the ionization and collection of particulate matter.

Regardless of whether it would have been obvious to modify Ahlborn to include a plurality of emitter electrodes arranged in an array and a plurality of collectors electrodes arranged in an array, the resulting device would not achieve the electro-kinetic air transporter-conditioner of independent Claim 1. Unlike the electro-kinetic air transporter-conditioner of independent Claim 1, Ahlborn does not teach, disclose, or suggest a second array of electrodes having at least three second electrodes electrically connected to one another, located downstream from the first array, the at least three second electrodes including two outermost second electrodes and one or more inner second electrode located between the outermost second electrodes, wherein each inner second electrode in the second array is a greater distance downstream from the first array than the outermost second electrodes in the second array.

Accordingly, for at least this reason, Applicants respectfully submit that independent Claim 1 and the claims depending therefrom are patentably distinguished over Ahlborn.

Independent Claims 8, 14, 15, 21, 44, 46, and 48, and amended independent Claim 37 each include certain similar elements to independent Claim 1. For reasons similar to those discussed above with respect to independent Claim 1, independent Claims 8, 14, 15, 21, 44, 46, and 48, amended independent Claim 37, and the claims depending therefrom are each patentably distinguished over Ahlborn.

The Office Action rejected Claims 1, 4 to 22, 30 to 35 and 37 to 49 under 103(a) as being obvious over U.S. Patent No. 4,318,718 to Utsumi et al. (“Utsumi”).

Utsumi teaches an electric dust collector comprising collector electrodes and emitter electrodes. Each emitter electrode has a slider fitted over it, such that the slider can move up and down the emitter electrode to clean the emitter electrode.

The Office Action states that Utsumi does not disclose hollow collector electrodes. However, the Office Action asserts that it would have been obvious to one of ordinary skill in the art at the time of invention to modify Utsumi to include hollow electrodes.

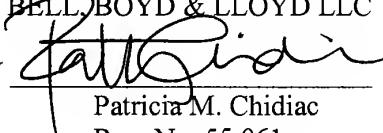
First, Applicants respectfully submit that, although the Office Action takes the position that it would have been obvious to modify Utsumi to include hollow collector electrodes, this limitation does not appear in any of the claims of the present application.

Moreover, even assuming one were to modify Utsumi to include hollow collector electrodes, the resulting device would not achieve the electro-kinetic air transporter-conditioner of independent Claim 1. Unlike the electro-kinetic air transporter-conditioner of independent Claim 1, Utsumi does not teach, disclose, or suggest a second array of electrodes having at least three second electrodes electrically connected to one another, located downstream from the first array, the at least three second electrodes including two outermost second electrodes and one or more inner second electrode located between the outermost second electrodes, wherein each inner second electrode in the second array is a greater distance downstream from the first array than the outermost second electrodes in the second array.

Accordingly, for at least this reason, Applicants respectfully submit that independent Claim 1 and the claims depending therefrom are patentably distinguished over Utsumi.

Independent Claims 8, 14, 15, 21, 44, 46, and 48, and amended independent Claim 37 each include certain similar elements to independent Claim 1. For reasons similar to those discussed above with respect to independent Claim 1, independent Claims 8, 14, 15, 21, 44, 46, and 48, amended independent Claim 37, and the claims depending therefrom are each patentably distinguished over Utsumi.

Applicants have made an earnest endeavor to place this application in condition for allowance and such action is courteously solicited. The Examiner is respectfully requested to telephone the undersigned if he can assist in any way in expediting prosecution of this application.

Respectfully submitted,
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Dated: May 30, 2006